

NORTHERN NEW JERSEY COUNCIL

Derby Day

General Information Packet



100 YEARS OF SCOUTING
Celebrating the Adventure ★ Continuing the Journey

BOTTLE ROCKET DERBY RULES

There is a \$5 Launch Fee for each scout.



Each rocket team will need

- 2- 2 liter bottles
- stiff paper or cardboard for fins
- tape to assemble "duct tape" works the best can with stand the pressures at launch
- paper and decorations for outside
- a pair of scissors
- a big smile

TEAMS SHOULD BE NO LARGER THAT 6 people

INDIVIDUAL ROCKETEERS ARE ALSO PERMITTED.



PINEWOOD DERBY RULES

There is a \$5 Driver's License Fee for each scout.

The information listed below will be the guidelines by the racing committee in judging all entries at the Council Derby Day. Information gathered from other sources that does not conform will not be allowed.

1. Axles, wheels and wood body are provided in the official BSA kit – no substitutes. Official BSA wheels and axles must be used. Solid axles are prohibited.
2. Wheels/tires cannot be altered. Rounding or shaping is not allowed. Wheel bearings, washers, and bushings are prohibited.
3. The car shall NOT ride on any springs
4. The car must be freewheeling, with no starting devices.
5. No loose materials of any kind are allowed in or on the car.
6. The maximum car length shall not exceed 7 inches. The car must fit in the check-in box.
7. The maximum overall width (including wheels and axles) shall not exceed 2-3/4 inches.
8. The minimum width between the wheels, side to side, shall be 1-3/4 inches (inside dimension). This is to ensure that the car will clear the center guide strip on the track.
9. The maximum weight of the car shall not exceed 5 ounces. Weights can be used. Moving weights are prohibited. Weights that become dislodged during racing will not be re-attached. The official scale is final. All competing cars are weighed on the same scale. (A staffed "pit" will be set up to make minor revisions to race cars as necessary.)
10. Only dry lubricant may used. All liquid lubricants are prohibited. All wheel lubrication must be done prior to check in.
11. Each car must pass inspection to qualify for racing. Once qualified, the car stays in control of the racing committee until the end of the race. No adjustments after qualifying for the race.

Cub Scouts who are in need of assistance to meet the Council specs may take their cars to the "Pit Stop". The pit crew will provide assistance to the Cub Scout – attaching loose pieces, reducing/adding weight, reducing length, etc.

The track used is fitted with an electronic timer. It has an infrared starting gate and finish line. The racing order is determined randomly by a 'racing' software program. The race-program captures the results. Each car races at least once per lane – in most cases, each car will race three times per lane. The car with the lowest (quickest) total race time wins.

CUBMOBILE DERBY RULES

There is a \$5 Driver's License Fee for each scout.



1. Each den/pack/troop/patrol builds at least one Cubmobile
2. Multiple Cubmobiles are allowed up to one per scout.
3. The Cubmobile must comply with the "Cubmobile Specs" Sheet.
4. All Cubmobiles will be inspected prior to each race for safety and design. The Cubmobiles must pass inspection before being allowed to participate.
5. All drivers must have and use the following safety equipment: Helmet (Bicycle, hockey, lacrosse or football helmet), Long Sleeve Shirt, Long Pants, Gloves, Knee and elbow pads are strongly recommended.
6. Seat belts are required.
7. Ramp attendants are responsible for creating a run order for their den, if that den is sharing a Cubmobile.
8. Scouts building a Cubmobile individually are encouraged to keep it for other scouting events.
9. Dens building as a team need to decide on a home for the Cubmobile after the event.
10. Scouts will be grouped into "teams" in order to maximize the use of the cars available. Teams will rotate among the planned activities.

Derby Procedure:

1. All Cubmobiles must start at the Inspection Station.
2. After passing the inspection you will be told to proceed to the Start Ramps.
3. The boys will be run two at a time.
4. All drivers must now be wearing their safety equipment.
5. Drivers should stay in their own lanes at all times.
6. No pumping or pushing with the feet allowed.
7. Winners of each race will be announced.
8. After driving, the Cubmobile returns to the Inspection Station for re-inspection prior to the next race.

Cubmobile Specs and Parts

See the illustration for description of building materials and hardware.

1. Wheels must not exceed 11 inches in diameter.
2. Car frame is made from lumber. Please check lumber to insure that it is sound in strength and free of splinters.
3. The overall length of the car is a maximum of 5 feet; the width is a maximum of 3' 8" feet.
4. Weight is not to exceed 40 pounds without rider.
5. Use roundhead 1/4-inch bolts to hold frame. Screws are a second choice. Nails are not suitable, because they may work loose.
6. All cars must have a seat with braced backrest, so the boy can comfortably steer with his feet.
7. Steering is done with the feet, which are placed on the front axle, and by the hands holding a rope fastened to the front axle.
8. Steering rope should be nylon and at least 1/4" diameter.
9. Car must be equipped with a seatbelt of some type. The belt must protect from injury if crash occurs, and will be inspected for safety.
10. During a race, the two 2x4 blocks fastened 1/4-inch from the centerboard will limit the turning radius on the Cubmobiles.
11. If threaded axles are used, the nuts must be secured with cotter pins or wire.

12. Cars must be equipped with a handbrake with its rubbing surface faced with a rubber material such as a strip of an old tire. This will stop the car when dragged on the ground.
13. Brakes must be mounted by a 3/8" bolt or larger and a braking surface must be covered with rubber.
14. Axles must be at least 3/8" in diameter.
15. No extra weight is to be added to the car.
16. No objects can be attached to the car that could possibly harm the driver or pedestrians.
17. Any decoration or writing on the cars will be done with B.S.A values.

VOLUNTEERS ARE NEEDED FOR STAFF!

The Inspection team will have 4 volunteers. The purpose will be to maintain a safe event by inspecting the Cubmobiles at check in and before each run. The first inspection upon arrival will be the most important. After that, we will be insuring the Cubmobiles are holding up well. The Four inspectors will trade out teams of two at a time.

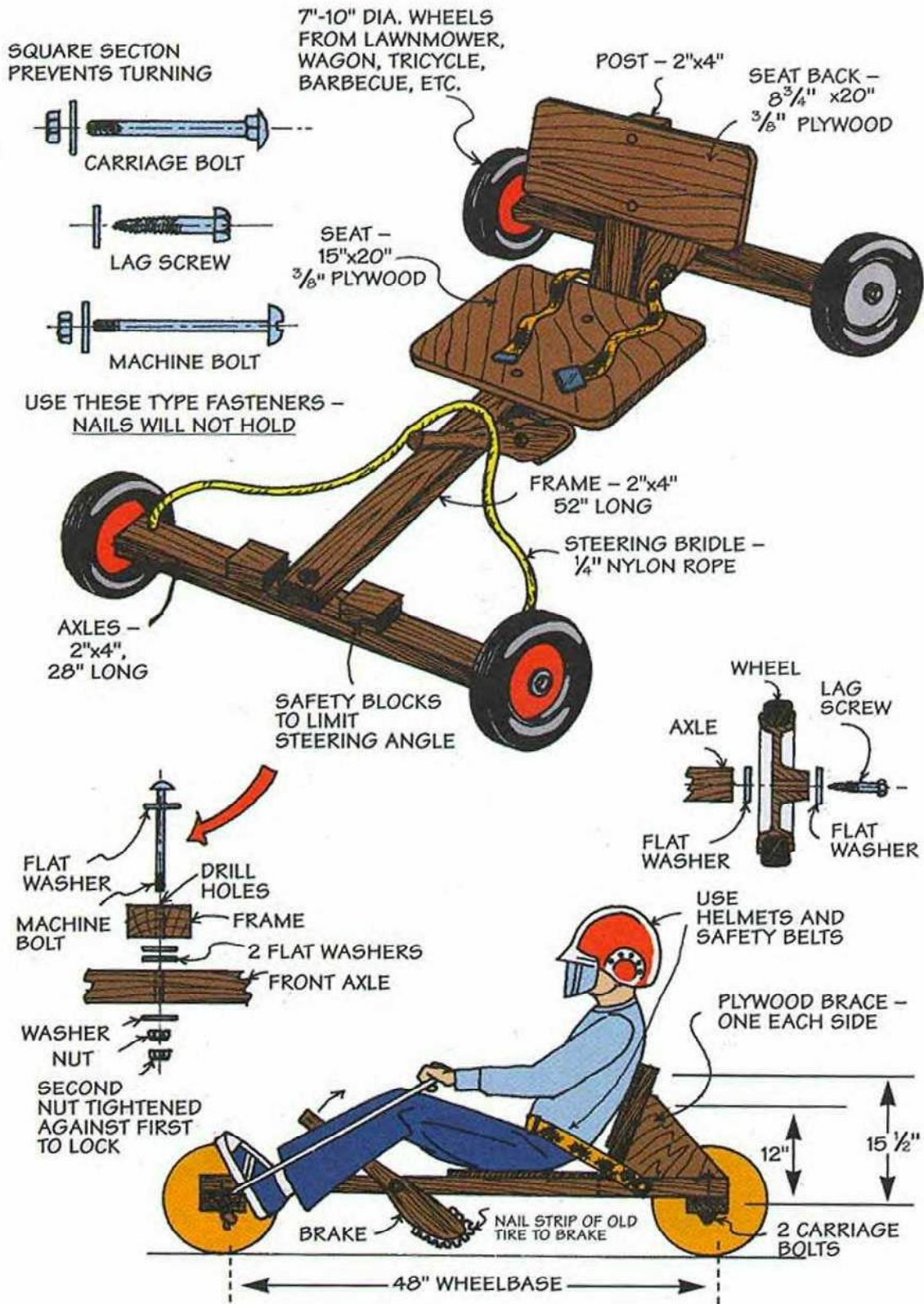
The Safety team will consist of 2 volunteers with first aid experience and provide first aid kits.

The Starting team will be in charge of letting the boys go. Also these volunteers are responsible for devising a good start method.

The finish line team is responsible for calling the race. This first race will not be timed. So a winner will be announced each run. The Finish line team is also responsible for awarding the design awards.

The Pit Crew will be necessary to help some Cubmobiles get legal and during the race to stay safe. This crew will work closely with the inspectors. Possibly taking turns with the inspection team.

CUBMOBILE. Use a helmet and safety belt.



RAINGUTTER REGATTA TIPS, RULES & REGULATIONS

There is a \$5 Sailing Fee for each scout.



1. Hull may be no longer than **7 inches** and not shorter than **6 ½ inches**.
2. Mast should measure **6 ½ inches** from deck to top of mast.
3. The sail should be no larger than the material supplied in the kit.
4. There is no restriction on color or design.
5. Boats must be made from the BSA Raingutter Regatta kits. However the materials supplied in the kit can be modified and added to somewhat.
6. The hull, mast, and sail provided in the kit must be used, however, they can be modified.
7. The keel and rudder must be used without modification.
8. The sail may be glued to the mast or held in place in some other fashion.
9. Boys, when called to race, place boat in gutter and place one hand in front of their sail holding the boat back against the end of the gutter, they hold the straw in their mouths with the other hand and get ready to blow on the word "GO" from the judges.
10. Racing will be double elimination. You must lose twice to be eliminated from further competition.
11. When racing boys are allowed to "upright" their boats with their hands, but, cannot push the boats forward when doing so. We will give one warning and run the particular race over if one boy pushes his boat ahead AND that boat wins. We will have to eliminate a boy from racing if he pushes his boat on the restart of a race. We don't want to eliminate a boy from racing.
12. In all cases of discrepancy, question, or fairness, the Derby Captain will define the rule of the race.

TIPS:

- The lighter the boat, the faster it will go, however it may be less stable
- Blowing is typically not a matter of how hard, but how straight. Blow evenly with the straw at a point about 1 inch from the bottom of the sail. Blowing the boat down one edge of the gutter rather than letting it "tack" back and forth seemed to be the fastest.
- Consistent blowing is better than large puffs.
- The bottom edge of the sail needed to be about 1/2 inch above the deck of the boat. If the sail was too low the corners rubbed against the gutter or dipped in the water. If the sail was too high the boat was top heavy and tended to tip over.
- The flatter the hull the more stable the boat will be. Stability is a key to winning the race.
- Some have had success in placing a groove in the bottom of the boat to help keep the boat going straight.
- The boats sailed best if they were balanced with more weight to the rear. This elevated the bow of the boat, and when they were blown, they ran almost even.
- The keels needed to be placed about 3/4 of an inch behind the mast. Don't follow the instructions in the kit.

Regatta Rules:

1. When called to race, hold your boat back with your hand against the end of the gutter until you hear the "Go!"
2. When racing, you will be allowed to "upright" your boat with your hands if your boat gets stuck, but you cannot move your boat forward when doing so. There will be one judge per track, and the judges will give a warning if you move your boat forward. If you get a warning(s), the race goes on. If you lose the race after getting a warning(s), no action is required; however, if you win, the race will be repeated.
3. If one of the boats gets broken during a race, the results stand. We will allow a 5 minute break for you to fix your boat as best as you can for the *next* race. You parents can help you fix your boat.
4. We will race each race twice, switching raingutters. If there is a tie, we will toss a coin, and the winner of the coin toss will choose track for the tie breaker. A race might be repeated if the judges find a reason that merits it.
5. We will have a double elimination race.

Don't miss out on the fun!

*Everyone is invited to attend and participate –
Cubs, Scouts, Leaders, Siblings, Friends and Family*

**Cost: \$15 per person to participate in all 4 events or
\$5 per person/per event**

For Example:

- a) 1 Pinewood Derby car and 1 Raingutter Regatta – Registration would be \$10*
- b) All 4 events - Registration would be \$15*

You can register 2 convenient ways:

1. Visit www.nnjbsa.org and click on Derby Day Registration
(Be sure to have your credit card handy)
2. Detach the form below and send to Council Service Center along
with Payment

Sign My Pack Up for

Raingutter Regatta

Town_____Pack No._____ Number of Scouts_____ Total Amount

Pinewood Derby

Town_____Pack No._____ Number of Scouts_____ Total Amount

Bottle Rocket Derby

Town_____Pack No._____ Number of Scouts_____ Total Amount

Cubmobile Derby

Town_____Pack No._____ Number of Scouts_____ Total Amount

I will be attending without my Pack:

Name: _____ Pack _____ Town _____

Make checks payable to: Northern NJ Council BSA. All racers must be registered by August 1, 2010
to receive an event patch.